



IN THE UNITED STATES PATENT AND TRADEMARK
OFFICE

In re Patent Application of: Confirmation No. 8714
Yasuhiro Ogata et al. Group Art Unit: 1774
Application No.: 10/830,044
Examiner: Betelhem Shewareged
Filed: April 23, 2004
Title: INK-JET RECORDING MEDIUM

DECLARATION PURSUANT TO 37 C.F.R. §1.132

Honorable Commissioner of Patents and Trademarks
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Sir:

I, Yasuhiro Ogata, one of the inventors of the present invention, do declare and state as follows:

I graduated from Gunma University with a Master's degree in Engineering, Department of Applied Chemistry in March 1972;

I joined Fuji Photo Film Co., Ltd. in April 1972, and from 1972 to 1990, I was engaged in development of information recording paper (e.g., pressure-sensitive paper, thermosensitive layer, inkjet paper). From 1990 to 2000, I was engaged in development of supports for photographic paper. Since 2000, I have been engaged in development of photo-quality inkjet paper.

The following additional comparative experiment was carried out by me or under my supervision in order to make the advantages of the subject matter clearer.

Comparative Experiment B

An ink-jet recording sheet of Comparative Example 4 was prepared in the same manner as the preparation of the ink-jet recording sheet of Example 1 described in the specification of the present application, except that the following back-coat layer coating solution F was used in place of the back-coat layer coating solution C used in Example 1. (Preparation of back-coat layer coating solution F)

Water is added to smectite (LUCENTITE SWF, manufactured by Co-op Chemical Co., Ltd.) such that the smectite concentration was 5 % by mass. 40 parts by mass of the obtained liquid was added to 100 parts by mass of 10 % aqueous solution of acetoacetyl-modified polyvinyl alcohol (GOSEFINEMER Z-100, manufactured by Nippon Synthetic Chemicals Industry Co.), and then stirred for 30 minutes. 0.5 part by mass of 2,3-hydroxy-5-methyl-1,4-dioxane as a hardening agent was added to the resultant liquid immediately before application, to thereby yield back-coat layer coating solution F.

The ink-jet recording sheet of Comparative Example 4 was evaluated in the same manner as described in pp. 47 to 49 of the specification of the present application. The evaluation results are shown in Table A below, together with the data shown in the Declaration submitted on August 21, 2006. The evaluation criteria are the same as those described in pp. 47 to 49 of the specification.

As is clear from Table A, the ink-jet recording sheets of the Examples of the present invention, in which a water-swellaable synthetic mica is used, showed much better curling resistance than the ink-jet recording sheet of Comparative Example 4, in which the smectite is used. In addition, the ink-jet recording sheets of the Examples exhibited much better resistance to cracks at the color material receiving layer and resistance to irregular printing.

Table A

	Time-Dependent Blurring of Ink (%)	Image Quality After Printing	Cracks at the Surface of Color Material Receiving layer	Irregular Printing	Curling (mm) after Printing		
					10°C 25% RH	23°C 65% RH	30°C 80% RH
Example 1	114	◎	○	○	4	2	0
Example 2	118	○	○	○	6	3	0
Example 3	112	◎	◎	○	8	6	4
Comparative Example 1	121	○	×	×	15	4	-4
Comparative Example 2	164	×	○	○	5	3	1
Comparative Example 3	120	○	△	△	12	3	-5
Comparative Example 4	122	△	×	△	11	4	-4

Conclusions

The claimed invention showed unexpectedly greater improvements in the curl resistance and in the properties of the color material receiving layer.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further, that these statements were made with the knowledge that willful false statements and like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

DATE:

15. Nov. 2006.

YASUHIRO OGATA

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